PROCEEDINGS

OF THE

BIOLOGICAL SOCIETY OF WASHINGTON

A NEW RACE OF DEER FROM EASTERN CALIFORNIA

BY IAN McTAGGART COWAN,
Museum of Vertebrate Zoology, University of California.

A study, now in progress, of the deer of the Pacific coast area has revealed the presence of a hitherto unnamed race of mule deer in eastern California. The proposed name, together with the characteristics of the new race, follows.

Odocoileus hemionus inyoensis, new subspecies.

INYO MULE DEER

Type.—Male, adult; skin, skull and skeleton; no. 16363, Mus. Vert. Zool.; "Kid Mountain" at altitude of 11,000 feet, 10 miles west Big Pine, Inyo County, California; October 15, 1911; collected by H. A. Carr, orig. no. 656. Range.—Eastern slope of southern Sierra Nevada, in Owens Valley district of California.

Diagnosis.—A medium-sized race of mule deer (measurements of type: total length, 1740 mm., tail, 180 mm., hind foot, 485 mm.). Color (in full winter pelage): Above, in general tone, Cream Buff to Chamois (only capitalized color terms are from Ridgway, Color Standards and Color Nomenclature, 1912); tips of hairs black, producing pepper-and-salt effect usual in any mule deer; dark vertebral stripe originates anteriorly in the dark brow patch and proceeds posteriorly as a narrow median stripe. increasing in width and merging with color of rest of upper parts on rump; brown of back extended mid-dorsally to root of tail, thus interrupting dorsal margin of white rump patch; brow patch yellowish brown with sharply defined black V-shaped mark extending, from point on midline about 2 inches anterior to eyes, midway along eyebrows; face yellowish gray; muzzle whitish except for usual black ring posterior to rhinarium; ears, outside dark gray, inside white; white patch at base of ear restricted; ears not shaggy; black tip of tail as long as white portion; white of inguinal region extending forward in two wedge-shaped areas to within 6 inches of axillae and separated by a narrow posterior projection of gray color of brisket extending back to anterior border of inguinal region; brisket brownish gray; metatarsal gland 4 inches long. Skull short, relatively wide across zygomata and narrow across mastoids, giving appearance of

high occiput; that part of squamosal arm of zygoma which forms mandibular fossa elevated at outer margin so that posterior part forms angle of 90 degrees with anterior part; lower lachrymal duct larger than upper and piercing rim of orbit anterior to center of rim; nasals relatively broad posteriorly.

Comparisons.—From Odocoileus hemionus californicus (Caton), O. h. inyoensis differs in slightly greater average size and predominantly yellowish rather than dusky dorsal surface; crown patch yellowish rather than black with gray flecking; dark vertebral stripe neither so broad nor so well defined. Dark stripe from apex of dark V on forehead, to base of rhinarium, absent; white of inguinal region more extensive; brisket lighter, brownish rather than blackish; skull larger in every part measured save mastoid width which is relatively as well as actually less (mastoid width 97% rather than 104% of orbital width).

From Odocoileus hemionus hemionus (Rafinesque), O. h. inyoensis differs as follows: Average size less; general coloration yellower; brow patch yellow rather than gray; ears shorter and much less shaggy, darker behind and with white spot at base more restricted; brisket brown rather than black; inguinal white patch more extensive, projecting up onto breast in two wedgeshaped areas; metatarsal gland shorter, averaging 4 inches in inyoensis as against 5 inches in hemionus. Selected cranial characters in which inyoensis differs from hemionus are as follows: Zygomatic width 59% of basilar length, measured from anterior lip of foramen magnum to posterior margin of incisive foramen, as against 55% in the latter form; palatal width 45% rather than 43% of palatal length; mastoid width 68% rather than 72% of zygomatic width.

Remarks.—On point of external appearance, inyoensis shows close approach to representatives of hemionus from northeastern California, but an analysis of the cranial characters indicates the nearest affinity of this race to be with californicus. From both of these races, however, inyoensis can readily be distinguished by the large amount of white on the underparts and breast, and by the relatively narrower mastoid region.

A few specimens of *hemionus* from Siskiyou County, California, show a tendency to have the white of the abdominal region extended forward onto the breast, but not to such a marked degree as is exhibited by *inyoensis*. Comparable specimens from Nevada, Colorado, and Placer County, California, show no such tendency.

Two juvenile specimens from the type locality, nos. 16361 and 16362, Mus. Vert. Zool., agree with the type in all essentials of coloration, with the exception that the ears are darker outside and in one there is a dark spot at the base of the tail.

In making cranial comparisons the average measurements of 6 adult male *hemionus* from Modoc County, California, and 26 adult male *californicus* from Santa Barbara County, California, were used.